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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,789	12/08/2005	Ramesh Mantha	213222.00104	1171

27160 7590 01/08/2008

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EXAMINER	
HUANG, WEN WU	
ART UNIT	**PAPER NUMBER**
2618	

MAIL DATE	DELIVERY MODE
01/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/559,789	MANTHA ET AL.	
	Examiner	Art Unit	
	Wen W. Huang	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 15-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim 14 is canceled.

Claims 1-13 and 15-28 are pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 15-20 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Knuutila et al. (US. 6,819,937 B2; hereinafter "Knuutila 937") incorporating Knuutila et al. (US. 7,158,489 B1; hereinafter "Knuutila 489") in view of Liu et al. (US. 7,106,569 B2; hereinafter "Liu")

Regarding **claim 15**, Knuutila 937 teaches a system for transmitting data (see Knuutila 937, fig. 2) comprising:

at least one subscriber station operable to transmit data at a plurality of different data rate (see Knuutila 489, col. 7, lines 20-35; data rate of 4 slots per frame and data rate of 8 slots per frame), said at least one subscriber station further having a radio with a power amplifier (see Knuutila 937, fig. 3. transmitter 20; Knuutila 489, fig. 2, transmitter power amplifier 20) including foldback circuitry (see Knuutila 489, fig. 2, sensor 21 and control system 22) and operable to track incidents of foldback (see

Knuutila 489, fig. 2, sensor 21, col. 6, lines 21-25) and to transmit a foldback event message (see Knuutila 489, col. 6, lines 41-43 and 47-49, Routing Area Update message including power classmark information) whenever incidents of foldback tracked in said at least one subscriber station reach a predetermined threshold (see Knuutila 937, col. 6, lines 36-40, anytime when power class update is need means incidents of foldback occurs at least once; also see Knuutila 489, col. 6, lines 21-25; Knuutila 489, col. 3, lines 35-55); and

a base station (see Knuutila 937, fig. 1, "BSS") operable, upon to receiving said foldback event messages, to instruct said at least one subscriber station to reduce its data rate (see Knuutila 489, col. 7, lines 16-18).

Knuutila 937 is silent to teaching that said foldback circuitry monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna, said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits, and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits. However, the claimed limitation is well known in the art as evidenced by Liu.

In the same field of endeavor, Liu teaches a foldback circuitry (see Liu, fig. 1, current limiter 110) that monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna (see Liu, col. 3, lines 1-5), said foldback circuitry operating to limit said monitored current to prevent said

power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 1, lines 45-48 and col. 3, lines 40-48), and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 2, lines 18-27 and 34-36).

Therefore, it would have been obvious to one of ordinary skill in the time of the invention was made to combine the teaching of Knuutila 937 with the teaching of Liu in order to prevent amplifier current overdraw and threshold accuracy (see Liu, col. 1, lines 45-54).

Regarding **claim 16**, Knuutila 937 teaches a subscriber station (see Knuutila 937, fig. 3, MS 10) having a radio including a power amplifier (see Knuutila 937, fig. 3. transmitter 20; Knuutila 489, fig. 2, transmitter power amplifier 20) including foldback circuitry (see Knuutila 489, fig. 2, sensor 21 and control system 22) and operable to track incidents of foldback (see Knuutila 489, fig. 2, sensor 21, col. 6, lines 21-25) and to transmit a foldback event message to a base station (see Knuutila 489, col. 6, lines 41-43 and 47-49, Routing Area Update message including power classmark information), whenever tracked incidents of foldback reach a predetermined threshold (see Knuutila 937, col. 6, lines 36-40, anytime when power class update is need means incidents of foldback occurs at least once; also see Knuutila 489, col. 6, lines 21-25; col. 3, lines 35-55).

Knuutila 937 is silent to teaching that said foldback circuitry monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna, said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits, and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits. However, the claimed limitation is well known in the art as evidenced by Liu.

In the same field of endeavor, Liu teaches a foldback circuitry (see Liu, fig. 1, current limiter 110) that monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna (see Liu, col. 3, lines 1-5), said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 1, lines 45-48 and col. 3, lines 40-48), and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 2, lines 18-27 and 34-36).

Therefore, it would have been obvious to one of ordinary skill in the time of the invention was made to combine the teaching of Knuutila 937 with the teaching of Liu in order to prevent amplifier current overdraw and threshold accuracy (see Liu, col. 1, lines 45-54).

Regarding **claim 17**, the combination of Knuutila 937 and Liu also teaches the subscriber station of claim 16, wherein said predetermined threshold is reached when said radio experiences foldback over a predefined number of consecutive frames (see Knuutila 489, col. 7, lines 12-19).

Regarding **claim 18**, the combination of Knuutila 937 and Liu also teaches the subscriber station of claim 16, wherein said predetermined threshold is reached when said subscriber has a foldback duty cycle of more than a predetermined amount (see Knuutila 489, col. 7, lines 12-19; a duty cycle of at least one occurrence of foldback).

Regarding **claim 19**, Knuutila 937 teaches a subscriber station (see Knuutila 937, fig. 3, MS 10) having a radio with a power amplifier (see Knuutila 937, fig. 3. transmitter 20; Knuutila 489, fig. 2, transmitter power amplifier 20) including foldback circuitry (see Knuutila 489, fig. 2, sensor 21 and control system 22), said subscriber station operable to transmit data at a plurality of different data rate (see Knuutila 489, col. 7, lines 20-35; data rate of 4 slots per frame and data rate of 8 slots per frame), and said subscriber further operable to track incidents of foldback (see Knuutila 489, fig. 2, sensor 21, col. 6, lines 21-25) and to transmit data at a lower data rate from said plurality of different data rates (see Knuutila 489, col. 7, lines 16-18) whenever tracked incidents of foldback reach a predetermined threshold (see Knuutila 937, col. 6, lines 36-40, anytime when power class update is need means incidents of foldback occurs at least once; also see Knuutila 489, col. 6, lines 21-25; col. 3, lines 35-55).

Knuutila 937 is silent to teaching that said foldback circuitry monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna, said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits, and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits. However, the claimed limitation is well known in the art as evidenced by Liu.

In the same field of endeavor, Liu teaches a foldback circuitry (see Liu, fig. 1, current limiter 110) that monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna (see Liu, col. 3, lines 1-5), said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 1, lines 45-48 and col. 3, lines 40-48), and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 2, lines 18-27 and 34-36).

Therefore, it would have been obvious to one of ordinary skill in the time of the invention was made to combine the teaching of Knuutila 937 with the teaching of Liu in order to prevent amplifier current overdraw and threshold accuracy (see Liu, col. 1, lines 45-54).

Regarding **claim 20**, Knuutila 937 teaches a base station (see Knuutila 937, fig. 1, "BSS") operable to receive messages from a remote subscriber station (see Knuutila 937, fig. 1, "MT", RAU request message, para. [0030], lines 1-4) that has a radio including a power amplifier (see Knuutila 937, fig. 3. transmitter 20; Knuutila 489, fig. 2, transmitter power amplifier 20) including foldback circuitry (see Knuutila 489, fig. 2, sensor 21 and control system 22) and operable to track incidents of foldback (see Knuutila 489, fig. 2, sensor 21, col. 6, lines 21-25) and further operable to adjust an estimate of the maximum available uplink transmit power maintained for said subscriber station (see Knuutila 937, col. 6, lines 54-56; also see Knuutila 489, col. 2, lines 59-67 and col. 3, lines 14-16; changing transmit power class) upon receiving a message indicating that (see Knuutila 489, col. 6, lines 41-43 and 47-49, Routing Area Update message including power classmark information) that tracked incidents of foldback have reached a predetermined threshold (see Knuutila 937, col. 6, lines 36-40, anytime when power class update is need means incidents of foldback occurs at least once; also see Knuutila 489, col. 6, lines 21-25; col. 3, lines 35-55).

Knuutila 937 is silent to teaching that said foldback circuitry monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna, said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits, and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier

from being driven over specification or being driven outside regulatory limits. However, the claimed limitation is well known in the art as evidenced by Liu.

In the same field of endeavor, Liu teaches a foldback circuitry (see Liu, fig. 1, current limiter 110) that monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna (see Liu, col. 3, lines 1-5), said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 1, lines 45-48 and col. 3, lines 40-48), and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 2, lines 18-27 and 34-36).

Therefore, it would have been obvious to one of ordinary skill in the time of the invention was made to combine the teaching of Knuutila 937 with the teaching of Liu in order to prevent amplifier current overdraw and threshold accuracy (see Liu, col. 1, lines 45-54).

Regarding **claim 25**, Knuutila 937 teaches a base station (see Knuutila 937, fig. 1, "BSS") operable to reduce the data rate of a subscriber station (see Knuutila 489, col. 7, lines 17-19) that has a radio including a power amplifier (see Knuutila 937, fig. 3. transmitter 20; Knuutila 489, fig. 2, transmitter power amplifier 20) including foldback circuitry (see Knuutila 489, fig. 2, sensor 21 and control system 22) and is operable to track incidents of foldback (see Knuutila 489, fig. 2, sensor 21, col. 6, lines 21-25), upon

said base station receiving a message from said subscriber station indicating (see Knuutila 489, col. 6, lines 41-43 and 47-49, Routing Area Update message including power classmark information) that tracked incidents of foldback have reached a predetermined threshold (see Knuutila 937, col. 6, lines 36-40, anytime when power class update is need means incidents of foldback occurs at least once; also see Knuutila 489, col. 6, lines 21-25; col. 3, lines 35-55).

Knuutila 937 is silent to teaching that said foldback circuitry monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna, said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits, and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits. However, the claimed limitation is well known in the art as evidenced by Liu.

In the same field of endeavor, Liu teaches a foldback circuitry (see Liu, fig. 1, current limiter 110) that monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna (see Liu, col. 3, lines 1-5), said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 1, lines 45-48 and col. 3, lines 40-48), and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored

current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 2, lines 18-27 and 34-36).

Therefore, it would have been obvious to one of ordinary skill in the time of the invention was made to combine the teaching of Knuutila 937 with the teaching of Liu in order to prevent amplifier current overdraw and threshold accuracy (see Liu, col. 1, lines 45-54).

2. Claims 1-13, 21-24 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knuutila 937 in view of Hall (US. 5,991,618; hereinafter "Hall") and Liu.

Regarding **claim 1**, Knuutila 937 teaches a method of estimating additional uplink transmit power available of a subscriber station (see Knuutila 937, col. 4, lines 25-47) having a radio that includes a power amplifier (see Knuutila 937, fig. 3. transmitter 20; Knuutila 489, fig. 2, transmitter power amplifier 20) including foldback circuitry (see Knuutila 489, fig. 2, sensor 21 and control system 22), said method comprising:

maintaining at a base station a stored value for allowable maximum uplink transmit power for said subscriber station (see Knuutila 937, col. 6, lines 30-32; also see Knuutila 489, col. 2, lines 63-65);

tracking at said subscriber station incidents of foldback (see Knuutila 489, fig. 2, sensor 21, col. 6, lines 21-25; col. 3, lines 35-55);

transmitting a foldback event message from said subscriber station to said base station (see Knuutila 489, col. 6, lines 41-43 and 47-49, Routing Area Update message including power classmark information), whenever incidents of foldback tracked at said subscriber station reach a predetermined threshold (see Knuutila 937, col. 6, lines 36-40, anytime when power class update is need means incidents of foldback occurs at least once; also see Knuutila 489, col. 6, lines 21-25); and

decreasing said stored value when said base station receives a foldback event message from said subscriber station (see Knuutila 489, col. 6, lines 26-28); and

increasing said stored value when a predefined interval of time has lapsed without said base station receiving a further foldback event message from said subscriber station (see Knuutila 489, col. 3, lines 18-24; increasing power classmark by power classmark change procedure without receiving RAU).

Knuutila 489 is silent to teaching that comprising:

subtracting uplink transmit power reported by said subscriber station from said stored value when to estimate of the additional uplink transmit power currently available to said subscriber station, when an estimate is required, and

wherein said foldback circuitry monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna, said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits, and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being

driven over specification or being driven outside regulatory limits. However, the claimed limitation is well known in the art as evidenced by Hall and Liu.

In the same field of endeavor, Hall teaches that comprising:

subtracting uplink transmit power reported by said subscriber station from said stored value when an estimate of the additional uplink transmit power currently available to said subscriber station, when an estimate is required (see Hall, col. 7, lines 11-13, fig. 3 and 4, power margin 166).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Knuutila 489 with the teaching of Hall in order to accurately estimate a communication quality and available power (see Hall, col. 1, lines 50-52).

The combination of Knuutila 489 and Hall is silent to teaching said foldback circuitry monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna, said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits, and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits. However, the claimed limitation is well known in the art as evidenced by Liu.

In the same field of endeavor, Liu teaches a foldback circuitry (see Liu, fig. 1, current limiter 110) that monitors a current in said power amplifier indicative of actual

uplink transmit power provided by said power amplifier to an antenna (see Liu, col. 3, lines 1-5), said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 1, lines 45-48 and col. 3, lines 40-48), and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 2, lines 18-27 and 34-36).

Therefore, it would have been obvious to one of ordinary skill in the time of the invention was made to combine the teaching of Knuutila 937 and Hall with the teaching of Liu in order to prevent amplifier current overdraw and threshold accuracy (see Liu, col. 1, lines 45-54).

Regarding **claim 2**, the combination of Knuutila 489, Hall and Liu also teaches the method of claim 1, wherein said base station increases said maintained estimate in increments of 1 dBm (see Hall, col. 2, line 24-25 and col. 5, lines 39-42).

Regarding **claim 3**, the combination of Knuutila 489, Hall and Liu also teaches the method of claim 1, wherein said base station decreases said maintained estimate in increments of 1 dBm (see Hall, col. 2, line 24-25 and col. 5, lines 39-42).

Regarding **claim 4**, the combination of Knuutila 489, Hall and Liu teaches the method of claim 1, wherein said predetermined interval of time is substantially 30

minutes (see Knuutila 489, col. 3, lines 27-31, example given entails a situation wherein handheld RF part and vehicle RF part being connected and disconnected for an interval of 30 minutes predetermined by the user of the handheld).

Regarding **claim 5**, the combination of Knuutila 489, Hall and Liu also teaches the method of claim 1, wherein said predetermined threshold is reach when a preselected number of consecutive frame have been subject to foldback (see Knuutila 489, col. 7, lines 12-19).

Regarding **claim 6**, the combination of Knuutila 489, Hall and Liu also teaches the method of claim 1, wherein said predetermined threshold is reached when said subscriber has a foldback duty cycle of more than a predetermined amount (see Knuutila 489, col. 7, lines 12-19; a duty cycle of at least one occurrence of foldback).

Regarding **claim 7**, the combination of Knuutila 489, Hall and Liu also teaches the method of claim 1 wherein said message includes an indication of the degree of foldback imposed at said subscriber station and said base station decreases said maintained estimate proportionally to the degree of foldback (see Hall, col. 4, line 61 – col. 5, line 6).

Regarding **claim 26**, the combination of Knuutila 489, Hall and Liu also teaches the method of claim 1, wherein the stored value for allowable maximum uplink transmit

power is the sum (see Knuutila 489, col. 3, lines 18-24; lower max power is 0.8 watts for class 5) of the lower of a maximum rated power output of the subscriber station and a maximum rated power output set by regulation (8 watts for class 2) and a stored uplink transmit power margin having a predetermined range of possible values (between class 2-5), the stored value for allowable maximum uplink transmit power increased or decreased by increasing or decreasing the uplink transmit power margin within the predetermined range (within the range of 8 watts to 0.8 watts).

Regarding **claim 27**, the combination of Knuutila 489, Hall and Liu also teaches the method of claim 26, wherein the method commences when the base station powers up and whenever another subscriber station becomes serviced by the base station by initializing the stored uplink transmit power margin to a predetermined maximum value (Knuutila 937, col. 6, lines 27-30).

Regarding **claim 28**, the combination of Knuutila 489, Hall and Liu also teaches the method of claim 26, wherein the lower of the maximum rated power output of the subscriber station and a maximum rated power output set by regulation is substantially 25dBm, and wherein the range of possible values of the uplink transmit power margin is substantially –3dBm to substantially 6dBm (see Knuutila 489, col. 3, lines 18-23; Hall, col. 2, lines 23-25).

Regarding **claim 8**, Knuutila 937 teaches a system for transmitting data (see Knuutila 937, fig. 2) comprising:

a plurality of subscriber stations each having a radio that includes a power amplifier (see Knuutila 937, fig. 3. transmitter 20; Knuutila 489, fig. 2, transmitter power amplifier 20) including foldback circuitry (see Knuutila 489, fig. 2, sensor 21 and control system 22) and each operable to track incidents of foldback (see Knuutila 489, fig. 2, sensor 21, col. 6, lines 21-25) and to transmit a foldback event message to a base station (see Knuutila 489, col. 6, lines 41-43 and 47-49, Routing Area Update message including power classmark information), whenever incidents of foldback tracked reach a predetermined threshold (see Knuutila 937, col. 6, lines 36-40, anytime when power class update is need means incidents of foldback occurs at least once; also see Knuutila 489, col. 6, lines 21-25; col. 3, lines 35-55); and

a base station (see Knuutila 937, fig. 1, "BSS") operable to receive foldback event messages (see Knuutila 937, fig. 1, "MT", RAU request message, para. [0030], lines 1-4) and to maintain a stored value for allowable maximum uplink transmit power for each said subscriber station (see Knuutila 937, col. 6, lines 30-32; also see Knuutila 489, col. 2, lines 63-65), said base station decreasing said stored value when said base station receives a foldback event message from said subscriber station (see Knuutila 489, col. 6, lines 26-28) and increasing said stored value when a predefined interval of time has lapsed without said base station receiving a further foldback event message from said subscriber station (see Knuutila 489, col. 3, lines 18-24; increasing power classmark by power classmark change procedure without receiving RAU).

Knuutila 489 is silent to teaching that comprising:

said base station being configured to estimate additional uplink transmit power currently available to said subscriber station by subtracting current transmit power reported by said subscriber station from said stored value, and

wherein said foldback circuitry monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna, said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits, and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits. However, the claimed limitation is well known in the art as evidenced by Hall and Liu.

In the same field of endeavor, Hall teaches that comprising:

said base station being configured to estimate additional uplink transmit power currently available to said subscriber station by subtracting current transmit power reported by said subscriber station from said stored value (see Hall, col. 7, lines 11-13, fig. 3 and 4, power margin 166).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Knuutila 489 with the teaching of Hall in order to accurately estimate a communication quality and available power (see Hall, col. 1, lines 50-52).

The combination of Knuutila 489 and Hall is silent to teaching said foldback circuitry monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna, said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits, and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits. However, the claimed limitation is well known in the art as evidenced by Liu.

In the same field of endeavor, Liu teaches a foldback circuitry (see Liu, fig. 1, current limiter 110) that monitors a current in said power amplifier indicative of actual uplink transmit power provided by said power amplifier to an antenna (see Liu, col. 3, lines 1-5), said foldback circuitry operating to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 1, lines 45-48 and col. 3, lines 40-48), and wherein an incident of foldback occurring whenever said foldback circuitry operates to limit said monitored current to prevent said power amplifier from being driven over specification or being driven outside regulatory limits (see Liu, col. 2, lines 18-27 and 34-36).

Therefore, it would have been obvious to one of ordinary skill in the time of the invention was made to combine the teaching of Knuutila 937 and Hall with the teaching of Liu in order to prevent amplifier current overdraw and threshold accuracy (see Liu, col. 1, lines 45-54).

Regarding **claims 9-13**, the dependent claims are interpreted and rejected for the same reasons set forth above in claims 2-6, respectively.

Regarding **claim 21**, the combination of Knuutila 489 and Liu teaches the base station of claim 20.

The combination of Knuutila 937 and Liu is silent to teaching that wherein said base station adjusts the estimate of maximum available uplink transmit power in increments of 1 dBm. However, the claimed limitation is well known as evidenced by Hall.

In the same field of endeavor, Hall teaches that wherein said base station adjusts the estimate of maximum available uplink transmit power in increments of 1 dBm (see Hall, col. 2, line 24-25 and col. 5, lines 39-42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Knuutila 489 and Liu with the teaching of Hall in order to accurately estimate a communication quality and available power (see Hall, col. 1, lines 50-52).

Regarding **claim 22**, the combination of Knuutila 489, Liu and Hall also teaches the base station of claim 21, wherein said base station increases the estimate of maximum available uplink transmit power of said subscriber station after a predetermined period of time has lapsed since receiving a message indicating any

incidents of foldback in said subscriber station (see Knuutila 489, col. 3, lines 18-24; increasing power classmark by power classmark change procedure without receiving RAU).

Regarding **claim 23**, the combination of Knuutila 489, Liu and Hall teaches the method of claim 22, wherein said predetermined interval of time is substantially 30 minutes (see Knuutila 489, col. 3, lines 27-31, example given entails a situation wherein handheld RF part and vehicle RF part being connected and disconnected for an interval of 30 minutes predetermined by the user of the handheld).

Regarding **claim 24**, the combination of Knuutila 489, Liu and Hall also teaches the base station of claim 20, wherein said base station adjusts said maximum available uplink transmit power of said subscriber station in accordance with the method described in claim 1 (see claim 1).

Response to Arguments

Applicant's arguments with respect to independent claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Saleh (US. 4,326,245) teaches a conventional current foldback circuitry.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen W. Huang whose telephone number is (571) 272-7852. The examiner can normally be reached on 10am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on (571) 272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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1/31/08

MATTHEW ANDERSON
SUPERVISORY PATENT EXAMINER